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| 10/590,028 | 10/30/2007 | **Gorm Sande** | 43315-234867 | 4131 |

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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

| Office Action Summary | Application No. | Applicant(s) | |
|---|---|---|---|
| | 10/590,028 | SANDE ET AL. | |
| | Examiner | Art Unit | |
| | Brittany N. McCue | 2169 | |

*-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --*

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1)☒ Responsive to communication(s) filed on *27 July 2010*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4)☒ Claim(s) *1-15 and 17-32* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-15 and 17-32* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

**Application Papers**

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

## DETAILED ACTION

### *Remarks*

The amendments were received on 7-27-10. Claims 1-15 and 17-32 are pending in the application. Claim 16 was previously cancelled. Applicants' arguments have been carefully and respectfully considered.

Claims 1, 7, and 12-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bashant et al. (US 6,636,875) of record and further in view of Miller (US 5,506,984) and Budhraja et al. (US 2005/0033481).

Claims 2-6, 9, and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bashant in view of Miller and Budhraja and further in view of Zhu, Jun "A Web Services Based Framework for Integration of Power Systems Applications", IEEE Power & Energy Magazine, November/December 2003 (referred to as Zhu herein).

Claim 8 rejected under 35 U.S.C. 103(a) as being unpatentable over Bashant in view of Miller and Budhraja as applied to claim 1 above, and further in view of A. DeVos et al., *XML for CIM Model Exchange*, IEEE, 2001 (referred to herein as DeVos) of record.

Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Bashant in view of Miller and Budhraja as applied to claim 1 above, and further in view of Hamsa (US 6,564,201) of record.

Claims 17-23, and 27-32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bashant et al. (US 6,636,875) of record and further in view of

Miller (US 5,506,984), Zhu, Jun "A Web Services Based Framework for Integration of Power Systems Applications", IEEE Power & Energy Magazine, November/December 2003 (referred to as Zhu herein) and Budhraja et al. (US 2005/0033481).

Claims 24-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bashant in view of Miller, Budhraja, and Zhu as applied to claim 23 above, and further in view of A. DeVos et al., *XML for CIM Model Exchange*, IEEE, 2001 (referred to herein as DeVos) of record.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

**Claims 1, 7, and 12-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bashant et al. (US 6,636,875) and further in view of Miller (US 5,506,984) and Budhraja et al. (US 2005/0033481).**

With respect to **claim 1**, Bashant teaches a method for retrieving and accessing data stored in a plurality of systems arranged for operating part of one or more electrical power networks, the method comprising:

providing a virtual asset register comprising elements of the systems, a model for exchange of data between the systems (Bashant, Col. 10 Li. 6-14, system information within the table that indicates how the data elements are broken down between records for a particular system so that the two systems can properly exchange data), and cross-reference and mapping of relationships of the elements of the systems (Bashant, Col. 7 Li. 23-30, a cross-reference system managing identifiers in order to determine where data elements referenced by the identifier are stored in different systems), wherein similar elements in different systems are similarly represented in the virtual asset register (Bashant, Col. 9 Li. 11-30, Table with in the hub system contains keys that correspond to a particular data element stored in the storage systems and contains information relating to how the data elements are stored),

adding a new object (Bashant, Col. 10 Li. 25-31, upon creation of a new data element in a storage system, the hub system must be informed through an instruction to the hub system) and data related to the new object into a first system (Bashant, Col. 10 Li. 31-39, the instruction relating to the new element may include a header containing information relating to the new element & Col. 10 Li. 42-45, the header information is inputted into the table),

adding a copy of the new object into a plurality of relevant systems (Bashant, Col. 10 Li. 50-53, the hub system forwards indication of the new element is to other storage systems for creation),

registering the new object in the virtual asset register (Bashant, Col. 10 Li. 25-49, upon creation of a new element, the hub system must be informed so that

the table can be updated, the hub system creates a new identifier and a new entry in the table),

establishing automatically a connection between said relevant systems and the new object (Bashant, Col. 10 Li. 40-63, a new universal identifier is created in the hub system and can also be created on each storage system and each storage system must inform the hub system of how the data element is stored),

replicating data related to the new object from the new object to other systems and relevant systems (Bashant, Col. 10 Li. 50-52, the instruction relating to the new element is forwarded to storage systems for replication, this instruction may include the universal identifier and a data element type name of the new element),

establishing a consistency of accessed or retrieved data in the relevant systems by mapping the new object using a virtual asset register (Bashant, Col. 6 Li. 45-67 – Col. 7 Li. 1-10, the headers of the instructions provide the hub system with information to facilitate mapping between identifiers of separate storage systems & Col. 8 Li. 37-49, maintenance of the table within the hub system allows a data element to be treated or referenced by one storage system and then be synchronized with the other storage systems),

checking a consistency of attributes of the accessed or retrieved data utilizing the virtual asset register by identifying the new or a given object or copies of the new or a given object and comparing attributes of all copies of the same new or given object (Bashant, Col. 10 Li. 65-67 – Col. 11 Li. 1-6, when an

existing data element is modified or referenced, the hub system is informed, and the table is checked for identifiers in other systems matching the modified data element's identifier so that the other systems can be synchronized).

Bashant teaches that the user accesses the storage systems to perform various actions (Bashant, Col. 5 Li. 30-51). Bashant also discloses that the user may create, modify, delete, or move a data element in the storage systems, however, doesn't provide details as to how the elements are retrieved. Therefore, Bashant doesn't expressly disclose providing the systems with user standard interfaces having standard object-oriented navigation and selection, and input and display methods, requesting data relating to a target object included in one of the systems, identifying relevant systems including data relating to the target object, retrieving the data regarding the target object from identified relevant systems utilizing the standard interfaces.

Bashant and Miller are directed towards managing data from a plurality of sources. Miller discloses a method for accessing data from a plurality of sources through an information broker that cross-references data among the sources (Miller, Col. 3 Li. 65 - Col. 4 Li. 4).

Miller teaches providing the systems with user standard interfaces having standard object-oriented navigation and selection, and input and display methods (Miller, Figs. 7&8 & Col. 6 Li. 9-16, interface is coupled to the organization engine which manages different databases),

requesting data relating to a target object included in one of the systems (Miller, Col. 7 Li. 55-61, the users may generate a query directed towards the databases),

identifying relevant systems including data relating to the target object (Miller, Col. 7 Li. 61-67, if the record isn't found in the first database, the query is directed to a referenced record in the next database and found), and

retrieving the data regarding the target object from identified relevant systems utilizing the standard interfaces (Miller, Col. 7 Li. 66-67, when the record is found it is returned to the user interface).

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains to have modified Bashant to have included providing the systems with user standard interfaces having standard object-oriented navigation and selection, and input and display methods, requesting data relating to a target object included in one of the systems, identifying relevant systems including data relating to the target object, retrieving the data regarding the target object from identified relevant systems utilizing the standard interfaces because it provides users with a means to access and retrieve information from a plurality of sources through one interface (Miller, Col. 3 Li. 65 – Col. 4 Li. 11).

Bashant in view of Miller doesn't expressly discuss providing the interfaces with context sensitive navigation functions that indicate which system is active.

Bashant in view of Miller and Budhraja are directed towards managing multiple systems' data.

Budhraja discloses a real-time performance monitoring, management, and prediction platform. This platform can be used with a Compliance Monitoring System (CMS) (Budhraja, paragraph 0084) and a power grid monitoring and management system that includes control performance standards (CPS) (Budhraja, paragraph 0092), among other systems. Budhraja shows user interfaces for the platform where the features the CMS have certain data with tabs that can be navigated as the user wishes (Budhraja, Fig. 18 & paragraph 0129). This data corresponds to the map on the display. The user interface shows different tabs for the CPS (Budhraja, Fig. 22). The tabs provide a way for the user to navigate the different system data, and are context sensitive since they depend upon which system the user is currently utilizing.

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains to have modified Bashant in view of Miller to have included providing the interfaces with context sensitive navigation functions that indicate which system is active because it provides the user with the appropriate utilities for each system when navigating through data from different systems.

With respect to **claim 7**, Bashant in view of Miller and Budhraja teaches the method according to claim 1, further comprising:

selecting an object utilizing an identifier in any said relevant system (Bashant, Col. 6 Li. 27-44, the identifier informs the hub system of the precise data element that was treated).

With respect to **claim 12**, Bashant in view of Miller and Budhraja teaches the method according to claim 1, further comprising:

deleting an object by deleting the object in all relevant systems (Bashant, Col. 12 Li. 4-12, the instruction will be forwarded so that the other storage systems can likewise delete the data element).

With respect to **claim 13**, Bashant in view of Miller and Budhraja teaches the method according to claim 12, further comprising:

deleting an object by deleting a defined object in each system (Bashant, Col. 12 Li. 4-12, the instruction will be forwarded so that the other storage systems can likewise delete the data element).

With respect to **claim 14**, Bashant in view of Miller and Budhraja teaches the method according to claim 13, further comprising:

deleting an object by deleting object connections to a deleted object or deleted defined object (Bashant, Col. 12 Li. 67 – Col. 13 Li. 1-7, the instruction to delete a data element in a storage system can be sent to the hub system which would then delete the entry in the table).

With respect to **claim 15**, Bashant teaches a computer program product for retrieving and accessing data stored in a plurality of systems arranged for operating part of one or more electrical power networks, the computer program product comprising:

a computer readable medium; and

software code portions or computer code recorded on the computer readable medium to cause a computer or processor to carry out the steps of

providing a virtual asset register comprising elements of the systems, a model for exchange of data between the systems (Bashant, Col. 10 Li. 6-14, system information within the table that indicates how the data elements are broken down between records for a particular system so that the two systems can properly exchange data), and cross-reference and mapping of relationships of the elements of the systems (Bashant, Col. 7 Li. 23-30, a cross-reference system managing identifiers in order to determine where data elements referenced by the identifier are stored in different systems), wherein similar elements in different systems are similarly represented in the virtual asset register (Bashant, Col. 9 Li. 11-30, Table with in the hub system contains keys that correspond to a particular data element stored in the storage systems and contains information relating to how the data elements are stored),

adding a new object (Bashant, Col. 10 Li. 25-31, upon creation of a new data element in a storage system, the hub system must be informed through an instruction to the hub system) and data related to the new object into a first system (Bashant, Col. 10 Li. 31-39, the instruction relating to the new element

may include a header containing information relating to the new element & Col. 10 Li. 42-45, the header information is inputted into the table),

adding a copy of the new object into a plurality of relevant systems (Bashant, Col. 10 Li. 50-53, the hub system forwards indication of the new element is to other storage systems for creation),

registering the new object in the virtual asset register (Bashant, Col. 10 Li. 25-49, upon creation of a new element, the hub system must be informed so that the table can be updated, the hub system creates a new identifier and a new entry in the table),

establishing automatically a connection between said relevant systems and the new object (Bashant, Col. 10 Li. 40-63, a new universal identifier is created in the hub system and can also be created on each storage system and each storage system must inform the hub system of how the data element is stored),

replicating data related to the new object to other systems and relevant systems (Bashant, Col. 10 Li. 50-52, the instruction relating to the new element is forwarded to storage systems for replication, this instruction may include the universal identifier and a data element type name of the new element),

establishing a consistency of accessed or retrieved data in the relevant systems mapping the new object using a virtual asset register (Bashant, Col. 6 Li. 45-67 – Col. 7 Li. 1-10, the headers of the instructions provide the hub system with information to facilitate mapping between identifiers of separate storage systems & Col. 8 Li. 37-49, maintenance of the table within the hub system

allows a data element to be treated or referenced by one storage system and then be synchronized with the other storage systems),

checking a consistency of attributes of the accessed or retrieved data utilizing the virtual asset register by identifying the new or a given object or copies of the new or a given object and comparing attributes of all copies of the same new or given object (Bashant, Col. 10 Li. 65-67 – Col. 11 Li. 1-6, when an existing data element is modified or referenced, the hub system is informed, and the table is checked for identifiers in other systems matching the modified data element's identifier so that the other systems can be synchronized).

Bashant teaches that the user accesses the storage systems to perform various actions (Bashant, Col. 5 Li. 30-51). Bashant also discloses that the user may create, modify, delete, or move a data element in the storage systems, however, doesn't provide details as to how the elements are retrieved. Therefore, Bashant doesn't expressly disclose providing the systems with user standard interfaces having standard object-oriented navigation and selection, and input and display methods, requesting data relating to a target object included in one of the systems, identifying relevant systems including data relating to the target object, retrieving the data regarding the target object from identified relevant systems utilizing the standard interfaces.

Bashant and Miller are directed towards managing data from a plurality of sources. Miller discloses a method for accessing data from a plurality of sources through an information broker that cross-references data among the sources (Miller, Col. 3 Li. 65 - Col. 4 Li. 4).

Miller teaches providing the systems with user standard interfaces having standard object-oriented navigation and selection, and input and display methods (Miller, Figs. 7&8 & Col. 6 Li. 9-16, interface is coupled to the organization engine which manages different databases),

requesting data relating to a target object included in one of the systems (Miller, Col. 7 Li. 55-61, the users may generate a query directed towards the databases),

identifying relevant systems including data relating to the target object (Miller, Col. 7 Li. 61-67, if the record isn't found in the first database, the query is directed to a referenced record in the next database and found), and

retrieving the data regarding the target object from identified relevant systems utilizing the standard interfaces (Miller, Col. 7 Li. 66-67, when the record is found it is returned to the user interface).

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains to have modified Bashant to have included providing the systems with user standard interfaces having standard object-oriented navigation and selection, and input and display methods, requesting data relating to a target object included in one of the systems, identifying relevant systems including data relating to the target object, retrieving the data regarding the target object from identified relevant systems utilizing the standard interfaces because the it provides users with a means to access and retrieve information from a plurality of sources through one interface (Miller, Col. 3 Li. 65 – Col. 4 Li. 11).

Bashant in view of Miller doesn't expressly discuss providing the interfaces with context sensitive navigation functions that indicate which system is active.

Bashant in view of Miller and Budhraja are directed towards managing multiple systems' data.

Budhraja discloses a real-time performance monitoring, management, and prediction platform. This platform can be used with a Compliance Monitoring System (CMS) (Budhraja, paragraph 0084) and a power grid monitoring and management system that includes control performance standards (CPS) (Budhraja, paragraph 0092), among other systems. Budhraja shows user interfaces for the platform where the features the CMS have certain data with tabs that can be navigated as the user wishes (Budhraja, Fig. 18 & paragraph 0129). This data corresponds to the map on the display. The user interface shows different tabs for the CPS (Budhraja, Fig. 22). The tabs provide a way for the user to navigate the different system data, and are context sensitive since they depend upon which system the user is currently utilizing.

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains to have modified Bashant in view of Miller to have included providing the interfaces with context sensitive navigation functions that indicate which system is active because it provides the user with the appropriate utilities for each system when navigating through data from different systems.

**Claims 2-6, 9, and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bashant in view of Miller and Budhraja and further in view of Zhu, Jun "A Web Services Based Framework for Integration of Power Systems Applications", IEEE Power & Energy Magazine, November/December 2003 (referred to as Zhu herein).**

With respect to **claim 2**, Bashant in view of Miller and Budhraja teaches the method according to claim 1, further comprising maintaining object connections for the new object and for any other object accessed, retrieved and/or stored (Bashant, Col. 8 Li. 37-44, the accurate maintenance of the table allows a data element to be treated or referenced by one storage system and then synchronized with other storage systems).

Bashant in view of Miller doesn't expressly disclose maintaining object connections for objects in a SCADA system as well as any system from the list of: GIS system, ERP system, CMMS system, PM system, WO system, WMS system. The type of system managed doesn't change the function of the invention. These systems, while being well known in the art, all have databases just like the systems disclosed in Bashant in view of Miller and Budhraja. However, Zhu has been provided to show that the system of Bashant in view of Miller and Budhraja could be used with SCADA and GIS systems.

Bashant in view of Miller and Budhraja and Zhu are directed towards managing data among a plurality of systems.

Zhu discloses SCADA and GIS systems being reengineered by laying an interface on top of the existing legacy applications to allow them to be accessed over the Internet. The utility Web services are developed to provide the common infrastructure supports for the integrated utility information system (Zhu, pg. 46, right column, Service-Based Architecture, 2nd & 3rd paragraph).

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains to have modified Bashant in view of Miller and Budhraja to have included maintaining object connections for objects in a SCADA system as well as any system from the list of: GIS system, ERP system, CMMS system, PM system, WO system, WMS system because operation of distribution systems require information from many sources requiring an integration of legacy power system applications (Zhu, pg. 41, left column, 1st paragraph).

With respect to **claim 3**, Bashant in view of Miller, Budhraja, and Zhu teaches the method according to claim 2, further comprising:

mapping the new object and/or copies of the new object (Bashant, Col. 6 Li. 45-67 – Col. 7 Li. 1-10, the headers of the instructions provide the hub system with information to facilitate mapping between identifiers of separate storage systems and are in XML format) using a model based on a CIM/XML document (Zhu, Fig. 9 & pg. 45, CIM/XML allows foreign systems to parse and consume data that was originally in a standard base format).

With respect to **claim 4**, Bashant in view of Miller, Budhraja, and Zhu teaches the method according to claim 2, further comprising:

mapping attributes of the new object and/or copies of the new object (Bashant, Col. 6 Li. 45-67 – Col. 7 Li. 1-10, the headers of the instructions provide the hub system with information to facilitate mapping between identifiers of separate storage systems and are in XML format) using a model based on a CIM/XML document (Zhu, pg. 45, seamless integration of vendors' proprietary information requires an industry-wide standard for describing power system resources, their attributes and relationships; this is provided by CIM and its extensions).

With respect to **claim 5**, Bashant in view of Miller and Budhraja teaches the method according to claim 1, further comprising:

establishing the automatic connection or connections between copies of the same object in different systems (Bashant, Col. 10 Li. 50-63, the storage systems informs the hub system how the data element is stored so that the element in the table can be updated).

Bashant in view of Miller and Budhraja doesn't expressly disclose utilizing a virtual asset register dependent on the CIM/XML layer and/or mapping.

Bashant in view of Miller and Budhraja and Zhu are directed towards managing data among a plurality of systems.

Zhu teaches establishing the automatic connection or connections between copies of the same object in different systems utilizing a CIM/XML layer

(Zhu, Fig. 9 & pg. 45, CIM/XML allows foreign systems to parse and consume data that was originally in a standard base format).

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains to have modified Bashant in view of Miller and Budhraja to have included establishing the automatic connection or connections between copies of the same object in different systems utilizing a CIM/XML layer because it provides efficient methods for translating and parsing of different types of data (Zhu, pg. 45, CIM/XML for Data Exchange).

With respect to **claim 6**, Bashant in view of Miller and Budhraja teaches the method according to claim 1, further comprising:

mapping the new object utilizing a virtual asset register (Bashant, Col. 6 Li. 45-67 – Col. 7 Li. 1-10, the headers of the instructions provide the hub system with information to facilitate mapping between identifiers of separate storage systems).

Bashant in view of Miller and Budhraja doesn't expressly disclose utilizing a virtual asset register dependent on the CIM/XML layer and/or mapping.

Bashant in view of Miller and Budhraja and Zhu are directed towards managing data among a plurality of systems.

Zhu teaches utilizing a virtual asset register (Zhu, pg. 46, the Web-services-based integration framework consolidating the functions of the participating actions) dependent on the CIM/XML layer and/or mapping (Zhu, pg.

45, CIM/XML for Data Exchange, Web services used to integrate legacy applications exchange information in CIM/XML such that languages can properly be translated and understood by foreign applications).

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains to have modified Bashant in view of Miller and Budhraja to have included using the CIM/XML layer because it provides efficient methods for translating and parsing of different types of data (Zhu, pg. 45, CIM/XML for Data Exchange).

With respect to **claim 9**, Bashant in view of Miller, Budhraja, and Zhu teaches the method according to claim 4, further comprising:

accessing one or more object attributes of the new object and changing an object attribute of the new object in a source system (Bashant, Col. 10 Li. 65-67 – Col. 11 Li. 1-6, when an existing data element is modified or referenced, the hub system is informed so that the other systems can be synchronized).

With respect to **claim 10**, Bashant in view of Miller, Budhraja, and Zhu teaches the method according to claim 4, further comprising:

updating an object attribute of the new object in the source (Bashant, Col. 10 Li. 65-67 – Col. 11 Li. 1-6, when an existing data element is modified or referenced, the hub system is informed so that the other systems can be synchronized).

**Claim 8 rejected under 35 U.S.C. 103(a) as being unpatentable over Bashant in view of Miller and Budhraja as applied to claim 1 above, and further in view of A. DeVos et al., *XML for CIM Model Exchange*, IEEE, 2001 (referred to herein as DeVos).**

With respect to **claim 8**, Bashant in view of Miller and Budhraja teaches the method according to claim 7, as discussed above. The identifiers discussed in Bashant are defined a unique value, symbol, or combination thereof (Bashant, Col. 4 Li. 15-20). Therefore, Bashant in view of Miller and Budhraja doesn't expressly discuss a method wherein the identifier may be a Uniform Resource Identifier compatible as an identifier with a standard for Resource Description Framework.

Bashant in view of Miller and Budhraja and DeVos are directed towards exchanging information between storage devices. DeVos teaches a method of using a Common Information Model (CIM) with the Resource Description Framework (RDF) which describes graphs in XML (DeVos, Pg. 33 Part F, 1st paragraph).

DeVos teaches a method wherein the identifier may be a Uniform Resource Identifier compatible as an identifier with a standard for Resource Description Framework (DeVos, Pg. 33, part F, 3rd paragraph, in the RDF model, a Uniform Resource Identifier is used to designate a resource).

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains to

have modified Bashant in view of Miller and Budhraja to have included a method wherein the identifier may be a Uniform Resource Identifier compatible as an identifier with a standard for Resource Description Framework because the URI is a standard used to identify resources in the RDF model and the RDF model addresses the problem of representing entities and relationships, such as directed labeled graphs, in XML (DeVos, Pg. 33, part F, 1st and 3rd paragraphs).

**Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Bashant in view of Miller and Budhraja as applied to claim 1 above, and further in view of Hamsa (US 6,564,201).**

With respect to **claim 11**, Bashant in view of Miller and Budhraja teaches the method according to claim 1, as discussed above. Bashant discusses creating a new element where each element is defined as a specific set of data (Bashant, Col. 4 Li. 13). However, Bashant in view of Miller and Budhraja doesn't expressly discuss creating the new object in each relevant system based on object templates.

Bashant in view of Miller and Budhraja and Hamsa are directed towards the integration of many systems.

Hamsa teaches creating the new object in each relevant system based on object templates (Hamsa, Col. 5 Li. 1-4, each object is the instance of a class, which provides a template for the object).

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains to have modified Bashant in view of Miller and Budhraja to have included creating the new object in each relevant system based on object templates because class templates create objects having the same fields but where each object can have different information in those fields (Hamsa, Col. 5 Li. 5-9).

**Claims 17-23, and 27-32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bashant et al. (US 6,636,875) and further in view of Miller (US 5,506,984), Zhu, Jun "A Web Services Based Framework for Integration of Power Systems Applications", IEEE Power & Energy Magazine, November/December 2003 (referred to as Zhu herein), and Budhraja et al. (US 2005/0033481).**

With respect to **claim 17**, Bashant teaches a computer-based system for retrieving and accessing data said computer-based system comprising:

a plurality of systems storing the data (Bashant, Fig. 2, storage systems 34, 35, 36, 38, and 39),

a virtual asset register comprising elements of the systems, a model for exchange of data between the systems (Bashant, Col. 10 Li. 6-14, system information within the table that indicates how the data elements are broken down between records for a particular system so that the two systems can properly exchange data), and cross-reference and mapping of relationships of

the elements of the systems (Bashant, Col. 7 Li. 23-30, a cross-reference system managing identifiers in order to determine where data elements referenced by the identifier are stored in different systems), wherein similar elements in different systems are similarly represented in the virtual asset register (Bashant, Col. 9 Li. 11-30, Table with in the hub system contains keys that correspond to a particular data element stored in the storage systems and contains information relating to how the data elements are stored), wherein objects added to the systems are registered in the virtual asset register (Bashant, Col. 10 Li. 25-49, upon creation of a new element, the hub system must be informed so that the table can be updated, the hub system creates a new identifier and a new entry in the table)

a plurality of databases (Bashant, Col. 5 Li. 21-22, each storage system includes a database),

a data communication network and which system includes an HMI (Bashant, Col. 5 Li. 30-51, users can treat or reference data elements)

a consistency establisher configured to establish a consistency of accessed or retrieved data in the relevant systems utilizing mapping data related to a new object to be added to the data using a virtual asset register (Bashant, Col. 6 Li. 45-67 – Col. 7 Li. 1-10, the headers of the instructions provide the hub system with information to facilitate mapping between identifiers of separate storage systems & Col. 8 Li. 37-49, maintenance of the table within the hub system allows a data element to be treated or referenced by one storage system and then be synchronized with the other storage systems),

one or more members for checking the consistency of attributes of any data so accessed or retrieved data by identifying at least one of the or each new or given object or copies of the new or given object in any separate system and comparing attributes of all such copies of the same new or given object from each of the separate systems (Bashant, Col. 10 Li. 65-67 – Col. 11 Li. 1-6, when an existing data element is modified or referenced, the hub system is informed so that the other systems can be synchronized).

Bashant doesn't expressly discuss user standard interfaces having standard object-oriented navigation and selection, and input and display methods, a data requester configured to request data relating to a target object included in one of the systems, an identifier configured to identify relevant systems including data relating to the target object, and a data retriever configured to retrieve the data regarding the target object from identified relevant systems.

Bashant and Miller are directed towards managing data from a plurality of sources. Miller discloses a method for accessing data from a plurality of sources through an information broker that cross-references data among the sources (Miller, Col. 3 Li. 65 - Col. 4 Li. 4).

Miller teaches user standard interfaces having standard object-oriented navigation and selection, and input and display methods (Miller, Figs. 7&8 & Col. 6 Li. 9-16, interface is coupled to the organization engine which manages different databases),

a data requester configured to request data relating to a target object included in one of the systems (Miller, Col. 7 Li. 55-61, the users may generate a query directed towards the databases),

an identifier configured to identify relevant systems including data relating to the target object (Miller, Col. 7 Li. 61-67, if the record isn't found in the first database, the query is directed to a referenced record in the next database and found), and

a data retriever configured to retrieve the data regarding the target object from identified relevant systems utilizing the standard interfaces (Miller, Col. 7 Li. 66-67, when the record is found it is returned to the user interface).

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains to have modified Bashant to have included user standard interfaces having standard object-oriented navigation and selection, and input and display methods, a data requester configured to request data relating to a target object included in one of the systems, an identifier configured to identify relevant systems including data relating to the target object, and a data retriever configured to retrieve the data regarding the target object from identified relevant systems because it provides users with a means to access and retrieve information from a plurality of sources through one interface (Miller, Col. 3 Li. 65 – Col. 4 Li. 11).

Bashant in view of Miller doesn't expressly discuss a plurality of systems storing the data, wherein the data is arranged for operating part of one or more

electrical power networks and a data communication network and which system includes an HMI providing navigation and access to at least one of at least one SCADA system or database as well as to at least one of any system or database from the list of: ERP, GIS, CMMS, WO, WMS, PM.

The type of system managed doesn't change the function of the invention. These systems, while being well known in the art, all have databases just like the systems disclosed in Bashant in view of Miller. However, Zhu has been provided to show that the system of Bashant in view of Miller could be used with SCADA and GIS systems.

Bashant in view of Miller and Zhu are directed towards managing data among a plurality of systems.

Zhu teaches a plurality of systems storing the data, wherein the data is arranged for operating part of one or more electrical power networks (Zhu, pg. 41, power systems applications).

a data communication network and which system includes an HMI providing navigation and access to at least one of at least one SCADA system or database (Zhu, pg. 46, right column, Service-Based Architecture, 2nd & 3rd paragraph, SCADA and GIS systems being reengineered by laying an interface on top of the existing legacy applications to allow them to be accessed over the Internet).

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains to have modified Bashant in view of Miller to have included a plurality of systems

storing the data, wherein the data is arranged for operating part of one or more electrical power networks and a data communication network and which system includes an HMI providing navigation and access to at least one of at least one SCADA system or database as well as to at least one of any system or database from the list of: ERP, GIS, CMMS, WO, WMS, PM because operation of distribution systems require information from many sources requiring an integration of legacy power system applications (Zhu, pg. 41, left column, 1st paragraph).

Bashant in view of Miller and Zhu doesn't expressly discuss a method wherein the interfaces are provided with context sensitive navigation functions that indicate which system is active.

Bashant in view of Miller and Zhu and Budhraja are directed towards managing multiple systems' data.

Budhraja discloses a real-time performance monitoring, management, and prediction platform. This platform can be used with a Compliance Monitoring System (CMS) (Budhraja, paragraph 0084) and a power grid monitoring and management system that includes control performance standards (CPS) (Budhraja, paragraph 0092), among other systems. Budhraja shows user interfaces for the platform where the features the CMS have certain data with tabs that can be navigated as the user wishes (Budhraja, Fig. 18 & paragraph 0129). This data corresponds to the map on the display. The user interface shows different tabs for the CPS (Budhraja, Fig. 22). The tabs provide a way for

the user to navigate the different system data, and are context sensitive since they depend upon which system the user is currently utilizing.

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains to have modified Bashant in view of Miller and Zhu to have included a method wherein the interfaces are provided with context sensitive navigation functions that indicate which system is active because it provides the user with the appropriate utilities for each system when navigating through data from different systems.

With respect to **claim 18**, Bashant in view of Miller, Budhraja, and Zhu teaches the computer-based system according to claim 17, further comprising:

one or members for: adding a new object (Bashant, Col. 10 Li. 25-31, upon creation of a new data element in a storage system, the hub system must be informed); automatically establishing a connection between said relevant systems and the new object (Bashant, Col. 10 Li. 40-63, a new universal identifier is created in the hub system and can also be created on each storage system and each storage system must inform the hub system of how the data element is stored); and for replicating data related to the new object to other systems and relevant systems (Bashant, Col. 10 Li. 50-52, the instruction is forwarded to storage systems for replication).

With respect to **claim 19**, Bashant in view of Miller, Budhraja, and Zhu teaches the computer-based system according to claim 18, further comprising:

one or members for: maintaining object connections (Bashant, Col. 8 Li. 37-44, the accurate maintenance of the table allows a data element to be treated or referenced by one storage system and then synchronized with other storage systems); providing connection or connections utilizing a layer with a structured text document protocol (Bashant, Col. 6 Li. 45-67 – Col. 7 Li. 1-10, the headers of the instructions provide the hub system with information to facilitate mapping between identifiers of separate storage systems and are in XML format); and mapping the new object utilizing a structured text document model (Zhu, Fig. 9 & pg. 45, CIM/XML allows foreign systems to parse and consume data that was originally in a standard base format).

With respect to **claim 20**, Bashant in view of Miller, Budhraja, and Zhu teaches the computer-based system according to claim 19, wherein any of: the structured text document protocol layer, or the structured text document for mapping the new object are implemented with a CIM/XML model (Zhu, Fig. 9 & pg. 45, CIM/XML allows foreign systems to parse and consume data that was originally in a standard base format).

With respect to **claim 21**, Bashant in view of Miller, Budhraja, and Zhu teaches the computer-based system according to claim 17, further comprising:

a virtual asset register (Bashant, Col. 8 Li. 58-65, the table interface includes an identifier matching system which utilizes an identifier received from a sending system to obtain information pertaining to other storage systems where the treated or referenced data element is also stored).

With respect to **claim 22**, Bashant in view of Miller, Budhraja, and Zhu teaches the computer-based system according to claim 21, wherein said asset register comprises a list of power network assets which list comprises in turn cross reference and mapping data for objects that are at least one of represented or stored (Bashant, Col. 8 Li. 61065, table interface includes a cross-reference system that includes a identifier matching system which utilizes an identifier to obtain information pertaining to other storage systems) in a SCADA system as well as in any system from the list of: GIS system, ERP system, CMMS system because the GIS system provides information about the geographical location of devices and the ERP system provides information about the maintenance history of the devices and SCADA system (Zhu, pg. 46, right column, Service-Based Architecture, 2nd & 3rd paragraph, SCADA and GIS systems being reengineered by laying an interface on top of the existing legacy applications to allow them to be accessed over the Internet & Fig. 9 & pg. 45, CIM/XML allows foreign systems to parse and consume data that was originally in a standard base format).

With respect to **claim 23**, Bashant in view of Miller, Budhraja, and Zhu teaches the computer-based system according to claim 21, wherein said asset

register comprises a list of references for all objects representing individual items of at least one of physical or logical equipment comprised in the one or more parts of the said power network (Bashant, Col. 8 Li. 58-67 – Col. 9 Li. 1-30, the table includes keys that correspond to a particular data element stored in the storage systems).

With respect to **claim 27**, Bashant in view of Miller, Budhraja, and Zhu teaches the computer-based system according to claim 17, further comprising:

a virtual asset register implemented according to an XML or CIM model or document (Bashant, Col. 6 Li. 45-54 & Col. 10 Li. 26-38, the table is created according to XML instructions the table in the hub system receives).

With respect to **claim 28**, Bashant in view of Miller, Budhraja, and Zhu teaches the computer-based system according to claim 17, further comprising:

an HMI that may comprise object data accessed or retrieved or stored (Bashant, Col. 5 Li. 30-51, users can treat or reference a data element in a storage system) in at least one of a SCADA system or database as well object data originating at least one of in any system or database from the list of: ERP, GIS, CMMS, WO, PM (Zhu, pg. 46, right column, Service-Based Architecture, 2nd & 3rd paragraph, SCADA and GIS systems being reengineered by laying an interface on top of the existing legacy applications to allow them to be accessed over the Internet).

With respect to **claim 29**, Bashant in view of Miller, Budhraja, and Zhu teaches the computer-based system according to claim 17, further comprising:

a display comprising a human-machine interface for retrieving and accessing data stored in a plurality of systems arranged for operating part of one or more electrical power networks (Bashant, Col. 5 Li. 30-51, users can treat or reference a data element in a storage system), which HMI comprises data accessed or retrieved from or stored (Bashant, Col. 5 Li. 3-8, i/o interfaces) in a SCADA system, and also comprising data accessed or retrieved from or stored in any from the list of: GIS system, ERP system, CMMS system, PM system, WO system (Zhu, pg. 46, right column, Service-Based Architecture, 2nd & 3rd paragraph, SCADA and GIS systems being reengineered by laying an interface on top of the existing legacy applications to allow them to be accessed over the Internet).

With respect to **claim 30**, Bashant in view of Miller, Budhraja, and Zhu teaches the computer-based system according to claim 29, wherein the human-machine interface comprises at least one graphical user interface a data manipulator configured to manipulate the data retrieved from or stored (Bashant, Col. 5 Li. 30-51, users can treat or reference a data element in a storage system) in the SCADA and any of the systems for at least one of GIS, ERP, or CMMS (Zhu, pg. 46, right column, Service-Based Architecture, 2nd & 3rd paragraph, SCADA and GIS systems being reengineered by laying an interface on top of the existing legacy applications to allow them to be accessed over the Internet).

With respect to **claim 31**, Bashant in view of Miller, Budhraja, and Zhu teaches the computer-based system according to claim 29, wherein said human-machine interface reads out any object property independent of source (Bashant, Col. 8 Li. 54-57, users can keep statistics regarding the treatment of the data elements and the volume of instruction sending/receiving performed by each storage system).

With respect to **claim 32**, Bashant in view of Miller, Budhraja, and Zhu teaches the computer-based system according to claim 29, wherein the human-machine interface comprises access to simultaneous data stored in or held by any of the list of: SCADA system, GIS system, ERP system, CMMS system, PM system, WO system (Bashant, Col. 8 Li. 54-57, users can keep statistics regarding the treatment of the data elements and the volume of instruction sending/receiving performed by each storage system & Zhu, pg. 46, right column, Service-Based Architecture, 2nd & 3rd paragraph, SCADA and GIS systems being reengineered by laying an interface on top of the existing legacy applications to allow them to be accessed over the Internet).

**Claims 24-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bashant in view of Miller, Budhraja, and Zhu as applied to claim 23 above, and further in view of A. DeVos et al., *XML for CIM Model Exchange*, IEEE, 2001 (referred to herein as DeVos).**

With respect to **claim 24**, Bashant in view of Miller, Budhraja, and Zhu teaches the computer-based system according to claim 23, as discussed above. The list of references in Bashant is created according to XML instructions the table in the hub system receives (Bashant, Col. 6 Li. 45-54 & Col. 10 Li. 26-38). Zhu discloses the use of a CIM model to describe power system resources such that foreign systems can understand documents (Zhu, pg. 45, CIM/XML for Data Exchange), however, Bashant in view of Miller, Budhraja, and Zhu doesn't expressly discuss a method wherein the list comprises a master list of all objects in the one or more parts of the said power network together with the mapping data for each object according to a CIM model.

Bashant in view of Miller, Budhraja, and Zhu and DeVos are directed towards exchanging information between storage devices. DeVos teaches a method of using a Common Information Model (CIM) with the Resource Description Framework (RDF) which describes graphs in XML (DeVos, Pg. 33 Part F, 1st paragraph).

DeVos teaches a method wherein the list comprises a master list of all objects in the one or more parts of the said power network together with the mapping data for each object according to a CIM model (DeVos, Pg. 34, section IV, 3rd and 4th paragraphs, the CIM names each class, its attributes and relationships, creating a common data dictionary).

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains to

have modified Bashant in view of Miller, Budhraja, and Zhu to have included a method wherein the list comprises a master list of all objects in the one or more parts of the said power network together with the mapping data for each object according to a CIM model because the CIM model provides a comprehensive, logical view of energy management system information (DeVos, Pg. 34, section IV, 2nd paragraph).

With respect to **claim 25**, Bashant in view of Miller, Budhraja, Zhu, and DeVos teaches the computer-based system according to claim 24, wherein object data for the objects comprised in the master list of the asset register is stored in at least one separate system (Bashant, Col. 8 Li. 58-67 – Col. 9 Li. 1-30, the table includes keys that correspond to a particular data element stored in the storage systems) including any of a system for: SCADA, GIS, CMMS, ERP, PM, WO (Zhu, pg. 41, first paragraph, & Fig. 11, SCADA & GIS system having data stored therein).

With respect to **claim 26**, Bashant in view of Miller, Budhraja, Zhu, and DeVos teaches the computer-based system according to claim 24, wherein the asset register is a virtual asset register, which does not comprise any object data for the objects comprised in the master list and comprises only link information or cross reference data or mapping data (Bashant, Fig. 3, table interface and table containing only system info and record references).

***Response to Amendment***

*Rejection of claims 1-14 under 35 U.S.C. 112*

With regard to claims 1-14, the amendments to the claims have overcome the 35 U.S.C. 112 rejection. The Examiner withdraws the 35 U.S.C. 112 rejection to claims 1-14.

***Response to Arguments***

*Rejection of claims 1, 7, and 12-15 under 35 U.S.C. 103*

Applicant's arguments, see pg. 12-14 with respect to claim 1, have been fully considered but they are not entirely persuasive.

Applicant argues in substance that Bashant in view of Miller doesn't teach a model for exchange of data between the systems, and cross-reference and mapping of relationships of the elements of the systems. The Examiner respectfully disagrees. Bashant discloses a model for exchange of data between the systems by having system information within the table that indicates how the data elements are broken down between records for a particular system. For example, in one system, a name is stored in one record and an address is stored in another record, while in a second system, the name and address are stored in one record (Bashant, Col. 10 Li. 6-14). This information allows for the exchange of data between the two systems by providing the format in which each system stores the data. Bashant additionally teaches the cross-reference and mapping of relationships of the elements of the system by having a cross-reference system that manages identifiers in order to determine where data elements

referenced by the identifier are stored in the different systems (Bashant, Col. 7 Li. 23-30).

Applicant additionally argues that Bashant in view of Miller fails to teach checking a consistency of attributes of the accessed or retrieved data utilizing the virtual asset register by identifying at least one of the new or a given object or copies of the new or a given object and comparing attributes of all copies of the same new or given object. The Examiner respectfully disagrees. Bashant discloses using the cross-reference table to determine the other systems having the data element with an identifier that is the same as a modified data element's identifier (Bashant, Col. 11 Li. 6-17). Once the other systems are determined, they can be synchronized to maintain consistency for that data element (Bashant, Col. 10 Li. 65-67). Thus, the consistency of accessed data is checked using the table of the hub system by identifying the data element and comparing the data with the data elements in other systems.

With respect to the limitation "providing the interfaces with context sensitive navigation functions that indicate which system is active", applicant seems to argue a newly amended limitation. Applicant's arguments, see pg. 12-13, with respect to this limitation have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration of the amendment, a new grounds of rejection is made in view of Budhraja et al. (US 2005/0033481).

*Rejection of claims 2-6, 9-11, and 17-32 under 35 U.S.C. 103*

Applicant argues in substance that the cited references, Zhu and DeVos, Hamsa, fail to cure the deficiencies of Bashant in view of Miller, and therefore dependent claims 2-6, 9-11, and 17-32 are patentable for the reasons discussed above with respect to claim 1. The arguments with respect to claim 1 are discussed above.

***Conclusion***

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brittany N. McCue whose telephone number

is (571)270-3566. The examiner can normally be reached on Mon-Thu 7am-4pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tony Mahmoudi can be reached on (571)272-4078. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/B. N. M./
Examiner, Art Unit 2169
10-8-10

/Tony Mahmoudi/
Supervisory Patent Examiner, Art Unit 2169